

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(currently amended)** A haptic feedback controller for controlling a controlled appliance, comprising:

a base;

a cap that is rotatable with respect to the base;

a piezoelectric motor including a ~~ring-shaped~~ stator that is fixed to the base and a ~~ring-shaped~~ rotor that is fixed to the cap;

a rotation control device for controlling a rotational state of the piezoelectric motor; and

a rotational state detecting device for detecting the rotational state of the cap with respect to the base or the rotational state of the piezoelectric motor;

wherein the stator of the piezoelectric motor is in direct physical contact with the rotor, without the intermediary of gears and/or belts, for driving the rotor to rotate to provide haptic feedback to a user of the controller.

2. **(currently amended)** A haptic feedback controller according to claim 1, further comprising an input/output device ~~that has a function~~ for outputting rotational state information based on a detection result of the rotational state detecting device and ~~a function for~~ receiving an input of feedback information used for controlling the rotational state of the piezoelectric motor.

3. **(currently amended)** A haptic feedback controller according to claim 1, further

comprising wherein a shock absorbing member ~~is provided~~ between the base and the stator and/or between the cap and the rotor.

4. **(currently amended)** A haptic feedback controller according to claim 3, wherein said rotor includes a ring-shaped sliding member ~~is provided between~~ in sliding frictional contact with the stator ~~and the rotor~~.

5. **(currently amended)** A haptic feedback controller according to claim 1, further comprising a mechanism for changing a distance between the base and the cap in a direction in which pressure is applied to press the rotor on the stator.

6. **(currently amended)** A haptic feedback controller according to claim 1, further comprising a bearing mechanism for rotationally supporting ~~wherein the base and the~~ on the cap ~~are integrated with a bearing mechanism in between~~.

7. **(currently amended)** A haptic feedback controller according to claim 1, wherein the rotational state detecting device includes an encoding barcode on ~~fixed to~~ an inner surface of the cap and a sensor unit fixed to an inner surface of the base, thereby and by detecting movement of the encoding barcode with respect to the sensor unit to detect ~~unit, detects~~ the rotational state of the cap with respect to the base.

8. **(currently amended)** A haptic feedback controller according to claim 1, wherein the rotational state detecting device detects the rotational state of the piezoelectric motor by analyzing a current flowing through the piezoelectric motor.

9. **(previously presented)** A haptic feedback controller according to claim 1, wherein the haptic feedback controller is ring-shaped.

10. **(currently amended)** A haptic feedback controller according to claim 9, wherein the base and the cap are disposed so as to face one another with a predetermined gap between the respective outer circumferential parts thereof, and

said controller further comprises a plurality of contact switches disposed apart from one another in a circumferential direction ~~are disposed~~ on at least one of the outer circumferential parts.

11. **(currently amended)** A haptic feedback controller according to claim 9, further comprising wherein a plurality of contact switches disposed apart from one another in a circumferential direction ~~are disposed~~ on an inner circumferential surface of the haptic feedback controller.

12. **(currently amended)** A haptic feedback controller according to claim 1, further comprising wherein a non-slip member ~~is provided~~ on a bottom surface of the base.

13. **(currently amended)** A haptic feedback controller according to claim 1, further comprising a control unit ~~function~~ for controlling the piezoelectric motor, when the user has rotated the cap, to maintain a ~~rotated~~ rotational state.

14. **(currently amended)** A haptic feedback controller according to claim 1, further comprising a control unit ~~function~~ for controlling the piezoelectric motor, when the user has rotated the cap, so that the rotor moves in a direction away from the stator.

15. **(currently amended)** A haptic feedback controller according to claim 1, further comprising a control unit ~~function~~ for controlling the piezoelectric motor, when the user has caused a change in the rotational state of the cap, to maintain said changed ~~so that the rotational state after the change is maintained~~.

16. **(currently amended)** A haptic feedback controller according to claim 1, further comprising a control unit for electronically controlling function that controls the piezoelectric motor in different operation modes to produce different ~~have various kinds of sound emitted, to have various kinds of and/or vibration produced, and/or to have various kinds of resistance applied to rotation of the cap.~~

17. **(currently amended)** A haptic feedback controller according to claim 1, further comprising a plurality of light sources disposed apart from one another in a circumferential direction of the controller.

18. **(currently amended)** A haptic feedback controller according to ~~claim 1~~ claim 2, wherein the input/output device includes an input/output power interface for obtaining ~~that can obtain~~ a power supply from the controlled appliance.

19. **(currently amended)** A haptic feedback controller according to ~~claim 1~~ claim 2, wherein the input/output device includes an input/output wireless interface for ~~that can~~ wirelessly exchange exchanging information with the controlled appliance.

20. **(currently amended)** A haptic feedback controller according to claim 1, wherein the rotation control device and the rotational state detecting device are entirely disposed in a space formed between the base and the cap.

21. **(currently amended)** A combination of the haptic feedback controller according to claim 1 and the controlled appliance, wherein the controlled appliance is one of a PC, a household electrical good, a game system, a toy, a content editing appliance, a means of transport, a machine tool, and a medical tool.

22-25. (canceled)

26. **(new)** A haptic feedback controller for controlling a controlled appliance, comprising:

a base;

a cap that is rotatable with respect to the base;

a piezoelectric motor that includes a ring-shaped stator with a ring-shaped piezoelectric body and a ring-shaped rotor, each of the stator and rotor defining a cavity through which a rotational axis of the cap passes, and allows the cap to rotate with respect to the base;

a rotation control device for controlling a rotational state of the piezoelectric motor; and

a rotational state detecting device disposed between the cap and the base for detecting the rotational state of the cap with respect to the base or the rotational state of the piezoelectric motor which rotates in a circumferential direction centered around the rotational axis.